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L5: Entry 18 of 114

File: USPT

Oct 29, 2002

DOCUMENT-IDENTIFIER: US 6473191 B2

\*\* See image for Certificate of Correction \*\*

TITLE: Printing apparatus, method of controlling same, information processor connected thereto, system and storage medium

Application Filing Date (1):  
19980414

## CLAIMS:

5. A method for processing information for a print apparatus, the print apparatus being capable of attaching one of a plurality of parts usable in print processing; said method comprising the steps of: acquiring, when print processing starts, part information identifying a type of part attached to the print apparatus and program information identifying a program for printing installed in the print apparatus; determining, based on the part information and the program information, whether or not a proper program for the part is installed in the printing apparatus; and transmitting, if it is determined in said determination step that the proper program for the part has been installed in the printing apparatus, print data to the printing apparatus, wherein if it is determined in said determination step that the proper program for the part is not installed in the printing apparatus, the proper program for the part and the print data to the printing apparatus.

13. A computer readable memory storing a program for implementing an information processing method, the program comprising: procedure code of an acquisition step of acquiring, when print processing starts, part information identifying a type of part attached to the print apparatus and program information identifying a program for printing installed in the print apparatus; procedure code of a determination step of determining, based on the part information and the program information, whether or not a proper program for the part is installed in the printing apparatus; and procedure code of a transmission step of transmitting, if it is determined in said determination step that the proper program for the part has been installed in the printing apparatus, print data to the printing apparatus, wherein if it is determined in said determination step that the proper program for the part is not installed in the printing apparatus, the proper program for the part and the print data to the printing apparatus.

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L5: Entry 16 of 59

File: USPT

Aug 13, 2002

DOCUMENT-IDENTIFIER: US 6433882 B1

TITLE: Device for processing intermediate files in printer control system

Application Filing Date (1):  
19990201

Brief Summary Text (3):

The present invention relates to an intermediate file processing device used in a printer control system that uses a printer driver of a computer to convert print data, which is prepared by an application of the computer, into print data appropriate for the printer and that then provides the print data to the printer.

Brief Summary Text (18):

According to another aspect, the present invention provides an intermediate file processing device for a printer control system that uses a printer driver of a computer to convert, for a print job, print data, which is prepared by an application of the computer, into code data appropriate for the printer and that then provides the code data to the printer, the intermediate file processing device comprising: a memory; intermediate file forming means for receiving a set of print data for a print job to be printed by a printer, for forming a set of one or more intermediate file, independent of a device for treating the print job, for the print job based on the set of print data, and for storing the set of one or more intermediate file in the memory, each intermediate file representing a single page image to be printed by the printer onto a single sheet; process command means capable of producing a command for processing the print job; page separation means for, in response to the command, recognizing the set of one or more intermediate file for the print job and for separating the one or more intermediate file from one another; and job processing means for processing the print job through producing, according to the command, a set of one or more new intermediate file based on the set of one or more intermediate file, the set of one or more new intermediate file being converted by a printer driver into code data appropriate for the printer. The memory may be constructed from a hard disk. The memory may be constructed from a RAM.

## CLAIMS:

21. An intermediate file processing device for a printer control system that uses a printer driver of a computer to convert, for a print job, print data, which is prepared by an application of the computer, into code data appropriate for the printer and that then provides the code data to the printer, the intermediate file processing device comprising: a memory; intermediate file forming means for receiving a set of print data for a print job to be printed by a printer, for forming a set of one or more intermediate file, independent of a device for treating the print job, for the print job based on the set of print data, and for storing the set of one or more intermediate file in the memory, each intermediate file representing a single page image to be printed by the printer onto a single sheet, the intermediate file forming means further forming a command file and storing the command file into the memory; process command means for analyzing the command file stored in the memory, and producing, when the command file includes process information indicative of a predetermined type of printing, a command to attain the predetermined type of printing; page separation means for, in response to the command, recognizing the set of one or more intermediate file for the print job and separating the one or more intermediate file from one another; and processing means for producing a set of one or more new intermediate file, which is independent of a device for treating the print job and which is for attaining the predetermined type of printing, based on the separated one or more intermediate file and based on the command, the set of one or more new intermediate file being converted by a printer driver into code data appropriate for the printer.

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L5: Entry 58 of 59

File: USPT

Jul 13, 1993

DOCUMENT-IDENTIFIER: US 5228118 A

TITLE: Printing system wherein one of printer drivers through which print data is sent from a data processor to a printer is selected based on interpreters available on the printer

Application Filing Date (1):  
19920625

Detailed Description Text (11):

The hard disk drive 44 is adapted to accept a hard disk which stores: various control programs for controlling the personal computer PC; a printer driver selection control program for executing a PRINTER DRIVE SELECTION routine of FIG. 6; a PRINTER DRIVER C for preparing print data by conversion in a language that can be interpreted by the LANGUAGE INTERPRETER A stored in the laser printer LP; a PRINTER DRIVER D for preparing print data by conversion in a language that can be interpreted by the LANGUAGE INTERPRETER B also stored in the laser printer LP; and other printer drivers for other printing control languages that can be interpreted by the other language interpreters available on the other printers which are connectable to the personal computer PC. The ROM 49 stores a bootstrap for transferring an initializing program to the RAM 50 upon application of power to the personal computer PC, and a character generator for displaying characters [such as letters and symbols) on the CRT display 41.



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L15: Entry 52 of 55

File: USPT

Oct 14, 1997

DOCUMENT-IDENTIFIER: US 5678002 A

**\*\* See image for Certificate of Correction \*\***

TITLE: System and method for providing automated customer support

Application Filing Date (1):  
19950718

Detailed Description Text (95):

Upon receipt of the printer information, if any printer driver appears to be outdated, PSS automatically downloads and installs an updated driver. When the PSS engineer is available, the necessary background information has already been obtained from the customer's computer, and rudimentary fixes have already been applied. Similar automatic sequences are possible with the other diagnostic applications described above.

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L18: Entry 6 of 8

File: USPT

Dec 28, 1999

DOCUMENT-IDENTIFIER: US 6009480 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Integrated device driver wherein the peripheral downloads the device driver via an I/O device after it is determined that the I/O device has the resources to support the peripheral device

Application Filing Date (1):  
19970912

Brief Summary Text (11):

Consequently, there is a strong need for a convenient and reliable method and system for obtaining an appropriate device driver for a peripheral device, which avoids the need for a user to have to manually download the device driver when incorporating the new device to a computing system.

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L5: Entry 5 of 59

File: USPT

Aug 12, 2003

DOCUMENT-IDENTIFIER: US 6606669 B1

TITLE: Information processing apparatus having automatic OS selecting function

Application Filing Date (1):  
19951205

Detailed Description Text (20):

Hitherto, for example, in case of printing the document formed by using the application program or the like on the host computer, when the printer driver for forming the control command of the connected printer is not preliminarily prepared in the ROM 3 or external memory 11 (hard disk), the printer driver is supplied to the user from the external memory 11 such as a floppy disk or the like. After that, the user designates the printer driver to the OS by the set file or a predetermined operation, thereby completing the installation of the printer driver for the first time.

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L5: Entry 6 of 59

File: USPT

Aug 5, 2003

DOCUMENT-IDENTIFIER: US 6603571 B1

TITLE: Information processing apparatus, method and recording medium therefor

Application Filing Date (1):19990831Detailed Description Text (17):

A CD-ROM 4001 installed in the host computer 1001 stores a printer driver which is a software for controlling the color printer 1013, associated plural color correction data files, an installer program for installing these softwares etc., and can be read through a CD-ROM drive 1016. Among these, the plural color correction data files mentioned above are classified into a group of higher importance and a group of lower importance according to the anticipated frequency of use.

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L5: Entry 10 of 59

File: USPT

May 20, 2003

DOCUMENT-IDENTIFIER: US 6567175 B1

TITLE: Device and method for changing printer drivers in a computer-printer system

Application Filing Date (1):  
19970326

Brief Summary Text (8):

The storage device, the display unit and the transmit-receive interface device are connected with the control unit via a data bus for controlling transmission of data and a control bus for controlling transmission of control signals. When the printer is connected to the computer a printer driver for controlling the printer is installed and stored in the storage device. This is the first connection between the computer and the printer. At this time, the control unit inputs fundamental information such as the type of printer, the types of the printer drivers, etc. into the storage device.



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L5: Entry 14 of 59

File: USPT

Dec 10, 2002

DOCUMENT-IDENTIFIER: US 6493101 B1

TITLE: Program management apparatus and method, and program product therefor

Application Filing Date (1):  
19950515

Detailed Description Text (22):

The host computer 130 and the printing apparatus can perform bi-directional communication. On the host computer 130, a program controlling the printing apparatus (printer driver 131) is running. The printer driver has various download objects in advance, and can perform various extended functions in the printing apparatus by downloading these objects in accordance with necessity.